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REPORT

CD NO

A blank coordinate system with a vertical y-axis and a horizontal x-axis. The y-axis is labeled 'y' at the top and has tick marks at 1, 2, 3, and 4. The x-axis is labeled 'x' at the right and has tick marks at 1, 2, 3, and 4. The origin is labeled '0'.

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THIS IS UNEVALUATED INFORMATION

50X1-HUM

Eng A. B. Frenkel

The Plant imeni Stalin uses a zinc alloy in the manufacture of sectional tools. This alloy consists of the following components: 4.75 percent Al; 0.07 percent Mg; 0.08 percent Cu; 0.01 percent P; 0.05 percent Fe; the remainder zinc. Hardness of the alloy: H ~ 63. The advantages of using an easily fusible zinc alloy with a melting point of 470-380 degrees instead of steel in manufacturing sectional tools is obvious. The melting point of this alloy is considerably lower than the temperature for tempering blades made of high-speed steel (560-590 degrees).<sup>\*</sup> Blades that have been first tempered to the required hardness do not lose their temper after casting and hence preserve all their cutting qualities.

- 1 -

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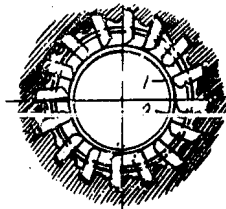
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Another advantage of cast zinc-alloy bodies over cast steel-alloy bodies should be noted. In the latter, when some blades of the tool are worn, it is very difficult to knock the blades, worn or not, out of the body, therefore, both the nonworn high-speed steel blades and the cast-steel body become scrap. Worn-out cast blades, in a zinc-alloy body, are readily removable. It is necessary only to dip the worn-out tool in a zinc-alloy bath and keep it there a few minutes. The body melts and the blades fall out easily. To keep the blades from being scattered in the bath and make their recovery easy, they are connected by a wire (2 in appended figure). Once separated from the melted body, the series of blades is easily removed from the bath by means of a hook. A sandblast apparatus removes any of the melted body adhering to the blades.

When worn out, a tool with a cast zinc-alloy body is recast with scarcely any loss of metal.

[Appended figure follows.]



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- 2 -

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